In the Claims:

1. (Currently amended) A method for producing a magnetorheological fluid, the method comprising the steps of:

exposing ferromagnetic particles to a ~~nitrogen-rich~~ nitrogen gas environment for an interval sufficient to impart a nitrogen-rich surface on the ferromagnetic particles; and

integrating the ferromagnetic particles having a nitrogen-rich surface into a magnetorheological carrier fluid.

2. (Original) The method of claim 1 wherein the ferromagnetic particles are composed of an iron material exhibiting magnetorheological characteristics.

3. (Currently amended) The method of claim ~~3~~ 2 wherein the ferromagnetic particles include at least one of carbonyl iron, reduced carbonyl iron, crushed iron, milled iron, melt sprayed iron, low carbon steel, silicon steel, and iron alloys.

4. (Currrently amended) The method of claim 1 wherein the ~~nitrogen-rich~~ nitrogen gas environment comprises a major portion of nitrogen gas and a minor portion of a gaseous material inert to interaction with the ferromagnetic particles.

5. (Original) The method of claim 1 wherein the ferromagnetic particles are composed of a first portion of ferromagnetic particles having a first average size distribution and a second portion of ferromagnetic particles having a second average size distribution, wherein the average size distribution of the first portion of the ferromagnetic particles is greater than the average size distribution of the second portion of the ferromagnetic particles.

6. (Original) The method of claim 5 wherein the average size distribution of the first portion of the ferromagnetic particles is between 5 and 30 microns.

7. (Original) The method of claim 5 wherein the average size distribution of the second portion of the ferromagnetic particles is between 1 and 10 microns.

8. (Currently amended) The method of claim 1 wherein the ferromagnetic particles exposed to the ~~nitrogen-rich~~ nitrogen gas environment include particles having an average particle size distribution between 1 and 10 microns.

9. (Original) The method of claim 8 further comprising the step of integrating the ferromagnetic particles having an average particle size distribution between about 1 and about 10 microns with larger size ferromagnetic particles, the integration occurring prior to exposure of the small-sized ferromagnetic particles to the nitrogen-rich environment.

10. (Currently amended) A method for producing a magnetorheological fluid comprising the steps of:

exposing ferromagnetic particles to a nitrogen-rich environment for an interval sufficient to impart a nitrogen-rich surface on the ferromagnetic particles; and

integrating the ferromagnetic particles having a nitrogen-rich surface into a magnetorheological carrier fluid;

wherein the ferromagnetic particles exposed to the nitrogen-rich environment include particles having an average particle size distribution between 1 and 10 microns;

~~The method of claim 8~~ and wherein the ferromagnetic particles having an average particle size distribution between 1 and 10 microns are integrated with larger size ferromagnetic particles after exposure to the nitrogen-rich environment.

11. (Currently amended) The method of claim 1 wherein the ferromagnetic particles are maintained in ~~a nitrogen-rich~~ the nitrogen gas environment at a temperature sufficient to initiate nitriding on the surface of the ferromagnetic particles.

12. (Currently amended) A method for reducing oxidation of ferromagnetic particles in a magnetorheological fluid comprising the step of:

exposing ferromagnetic particles to a ~~nitrogen-rich~~ nitrogen gas environment for an interval sufficient to impart a nitrogen-rich surface on the ferromagnetic particles prior to introduction of the ferromagnetic particles into the magnetorheological fluid.

13. (Currently amended) The method of claim 12 wherein the ferromagnetic particles are composed of an iron material which when integrated with a fluid material will yield a magnetorheological fluid exhibiting at least some magnetorheological characteristics.

14. (Currently amended) The method of claim 13 wherein the ferromagnetic particles include at least one of carbonyl iron, reduced carbonyl iron, potato iron, crushed iron, milled iron, melt-sprayed iron, and iron alloys.

15. (Currently amended) The method of claim 12 wherein the ferromagnetic particles exposed to the ~~nitrogen-rich~~ nitrogen gas environment have an average particle size distribution between about 1 and 10 microns.

16. (Currently amended) A method for reducing oxidation of ferromagnetic particles in a magnetorheological fluid comprising the step of:

exposing ferromagnetic particles to a nitrogen-rich environment for an interval sufficient to impart a nitrogen-rich surface on the ferromagnetic particles prior to introduction of the ferromagnetic particles into the magnetorheological fluid;

wherein the ferromagnetic particles exposed to the nitrogen-rich environment have an average particle size distribution between about 1 and 10 microns;

~~The method of claim 15~~ and wherein the ferromagnetic particles having an average particle size distribution in a range between 1 and 10 microns are admixed with ferromagnetic particles having an average particle size distribution in a range between about 5 and 30 microns, the admixture occurring after the ferromagnetic particles having an average particle size in a range between 1 and 10 microns have been exposed to the nitrogen-rich environment.

17. (Currently amended) A method for reducing oxidation of ferromagnetic particles in a magnetorheological fluid comprising the step of:

exposing ferromagnetic particles to a nitrogen-rich environment for an interval sufficient to impart a nitrogen-rich surface on the ferromagnetic particles prior to introduction of the ferromagnetic particles into the magnetorheological fluid;

wherein the ferromagnetic particles exposed to the nitrogen-rich environment have an average particle size distribution between about 1 and 10 microns;

~~The method of claim 15~~ and wherein the ferromagnetic particles having an average particle size distribution between about 1 and about 10 microns are admixed with ferromagnetic particles having an average particle size distribution in a range greater than 10 microns, the admixture occurring after the ferromagnetic particles having an average particle size between about 1 and 10 microns have been exposed to the nitrogen-rich environment.

18. (Currently amended) A method for imparting an oxidation resistant surface to magnetic metallic particles having an outwardly oriented surface, the method comprising the steps of:

introducing magnetic particles to a ~~nitrogen-rich~~ nitrogen gas environment;

elevating an ambient temperature of the particles and ~~nitrogen-rich~~ nitrogen gas environment to a temperature which facilitates uptake of nitrogen and formation of nitrogen-containing compounds proximate to the surface of the magnetic particles; and

maintaining the magnetic metallic particles in the ~~nitrogen-rich~~ nitrogen gas environment for an interval sufficient to produce a nitrogen-rich surface coating on the particles.

19. (Original) The method of claim 18 wherein the magnetic metallic particles include at least one of carbonyl iron, reduced carbonyl iron, crushed iron, milled iron, melt-sprayed iron, and iron alloys.

20. (Original) The method of claim 18 wherein the particles have an average size distribution in a range between 1 and 10 microns.

21. (Original) The method of claim 18 wherein the particles are composed of at least two classes of particles, a first class having an average size distribution in a range between 1 and 10 microns, and a second class having an average size distribution between 5 and 30 microns.

22. (Currently amended) A magnetorheological fluid comprising:

first ferromagnetic particles having an average particle size in a range between 1 and 10 microns;

second ferromagnetic particles having an average particle size in a range between 5 and 30 microns; and

a carrier fluid, wherein ~~at least~~ one of the first and second ferromagnetic particles have a surface characterized by nitrogen-containing compounds associated therewith.

23. (Currently amended) The magnetorheological fluid of claim 22 wherein the first particles are composed of at least one of carbonyl iron, reduced carbonyl iron, crushed iron, potato iron, milled iron, melt-sprayed iron, and iron alloys.

24. (Original) The magnetorheological fluid of claim 22 wherein the second particles are composed of at least one of carbonyl iron, reduced carbonyl iron, crushed iron, milled iron, melt-sprayed iron, and iron alloys.

25. (Original) The magnetorheological fluid of claim 23 wherein the second particles have a surface resistant to oxidation, the surface characterized by nitrogen-containing compounds associated therewith.

26. (New) The method as defined in claim 10 wherein the ferromagnetic particles are composed of at least one of carbonyl iron, reduced carbonyl iron, crushed iron, milled iron, melt-sprayed iron, low carbon steel, silicon steel, potato iron, iron alloys, and mixtures thereof.

27. (New) The method as defined in claim 16 wherein the ferromagnetic particles are composed of at least one of carbonyl iron, reduced carbonyl iron, crushed iron, milled iron, melt-sprayed iron, low carbon steel, silicon steel, potato iron, iron alloys, and mixtures thereof.

28. (New) The method as defined in claim 17 wherein the ferromagnetic particles are composed of at least one of carbonyl iron, reduced carbonyl iron, crushed iron, milled iron, melt-sprayed iron, low carbon steel, silicon steel, potato iron, iron alloys, and mixtures thereof.

29. (New) The method as defined in claim 1 wherein the ferromagnetic particles are composed of a first portion of ferromagnetic particles having a first average size distribution and a second portion of ferromagnetic particles having a second average size distribution, wherein the average size distribution of the first portion of the ferromagnetic particles is greater than the average size distribution of the second portion of the ferromagnetic particles, wherein the second portion of the ferromagnetic particles is exposed to the nitrogen gas environment for an interval sufficient to impart a nitrogen-rich surface on the second portion of the ferromagnetic particles, and wherein the method further comprises integrating the first portion of the ferromagnetic particles with the second portion of the ferromagnetic particles after exposure to the nitrogen gas environment and prior to the integration into the magnetorheological carrier fluid.